



PATENT
12480-000175/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/574,470
Filing Date: March 31, 2006
Applicant: Masaru TAKAGI et al.
Group Art Unit: 1638
Examiner: Unassigned
Title: Producing Process of Sterile Plants, Plants Obtained by
the Process, and Use of the Plants
Attorney Docket: 12480-000175/US

PETITION UNDER 37 C.F.R. § 1.181 TO WITHDRAW HOLDING OF ABANDONMENT

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314
MAIL STOP PETITION

June 30, 2009

Dear Sir:

In response to the Notice of Abandonment mailed May 14, 2009 in connection with the subject application, Applicants hereby respectfully petition under the provisions of 37 C.F.R. 1.181 and M.P.E.P. §711.03(c) for decision to withdraw the holding of abandonment.

The Notice of Abandonment dated May 14, 2009 asserts that Applicants failed to properly or timely respond to a July 6, 2006 Notice of Missing Requirements. However, a review of the file for the present application confirms that the July 6, 2006 Notice of Missing Requirements was fully, properly, and timely responded to by the offices of the undersigned.

More specifically, on March 10, 2006 this application was filed as a PCT application in the US Receiving Office, with a paper Sequence Listing and a Computer Readable Form (CRF) of the Sequence Listing. On July 7, 2006 the U.S. Patent & Trademark Office (herein "PTO") mailed a Notice of Missing Requirements asserting that the CRF was defective and providing a set of specific errors in a marked-up Raw Sequence Listing. A copy of the July 7, 2006 Notice of Missing Requirements and marked-up Raw Sequence Listing are attached hereto together as **Exhibit A**.

On August 29, 2006, Applicants, through the offices of the undersigned, filed with the PTO a Response to Notice of Missing Requirements together with a revised Sequence Listing in paper and CRF forms. The errors identified in the July 7, 2006 marked-up Raw Sequence Listing were corrected at this time. Copies of the August 29, 2006 Response to Notice of Missing Requirements together with the paper copy of the revised Sequence Listing and the postcard confirming receipt of the foregoing by the PTO are attached hereto as **Exhibit B**.

About one year later, on July 30, 2007, the PTO mailed a Notification of Defective Response asserting that the August 29, 2006 CRF was defective. However, that Notification includes the same specific errors that were identified in the July 2006 marked-up Raw Sequence Listing. In fact, it is a photocopy of the marked-up Raw Sequence Listing from the July 7, 2006 communication. Because those errors had been corrected by the August 29, 2006 Sequence Listing (see **Exhibit B**), this communication from the PTO was factually inaccurate and, we submit, defective.

In late August 2007, our offices had an e-mail exchange with the PTO regarding the Sequence Listing issue. The Patent Office located the CRF of the August 29, 2006 Sequence Listing in the artifact file, checked it and found a single error in it. However, that error was different than the errors that were raised in the July 7, 2006 Notice of Missing Requirements or the July 30, 2007 Notification of Defective Response. A copy of the e-mail received from the PTO is attached hereto as **Exhibit C**.

That the error identified in the CRF located in the PTO's artifact file in August 2007 was not one of those identified in the July 7, 2006 Notice of Missing Requirements (or the July 30, 2007 Notification of Defective Response) establishes

that the PTO did, in fact, receive the corrected Sequence Listing back in August 2006. If the PTO had not received the corrected Sequence Listing, then the errors that were identified in July 7, 2006 Notice of Missing Requirements would have been identified again. Instead, those errors had been corrected by Applicants and the Sequence Listing that was located and reviewed by the PTO in August 2007 was, in fact, the corrected version. For at least this reason, the May 14, 2009 Notice of Abandonment based on alleged failure to properly or timely respond to the July 6, 2006 Notice of Missing Requirements is factually incorrect, improper and should be withdrawn.

In addition, despite the identification of a new error in August 2007, no Notice of Defective Sequence Listing was issued by the PTO. The newly identified error was minor - in an information box for just one of the 164 sequences in the Sequence Listing an amino acid sequence was inadvertently referred to as a DNA sequence. Because this error had not previously been identified in any communication from the Patent Office, a new Notice of Defective Sequence Listing should have issued at this time if correction was deemed necessary.

Despite the absence of a new Notice of Defective Sequence Listing, and the absence of any obligation to respond to any office action, Applicants electronically submitted a new CRF for the Sequence Listing correcting the single newly-found error. A copy of a printout from PAIR showing the September 4, 2007 electronic submission is attached hereto as **Exhibit D**. In addition, the undersigned downloaded what was identified as "version 2" of the Sequence Listing in this application from PAIR and found that it contained correction of both (1) the originally identified errors (from the July 7, 2006 Notice of Missing Requirements) and (2) the error that was newly-identified in August 2007. A copy of that downloaded Sequence Listing is attached hereto as **Exhibit E**.

In view of the foregoing, it is readily apparent that the abandonment of the present application was due solely to error by the PTO. Accordingly, this petition is being timely filed for the purpose of petitioning withdrawal of the abandonment in view of the above-stated facts.

It is further believed that pursuant to M.P.E.P. §711.03(c), no petition fee is necessary in connection with this petition.

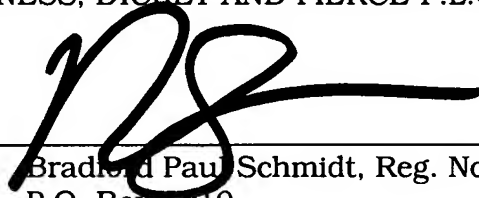
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §1.17; particularly, extension of time fees.

In the event that any matters remain at issue in the application, the Examiner is invited to contact the undersigned at (703) 668-8000 in the Northern Virginia area, for the purpose of a telephonic interview.

Respectfully submitted,

HARNESS, DICKEY AND PIERCE P.L.C.

By



Bradford Paul Schmidt, Reg. No. 42,128
P.O. Box 8910
Reston, VA 20195

BPS/dab

Attachments: Exhibit A
 Exhibit B
 Exhibit C
 Exhibit D
 Exhibit E

DJD



UNITED STATES PATENT AND TRADEMARK OFFICE

12480-000175/US

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/574,470	Masaru Takagi	12480000175US

INTERNATIONAL APPLICATION NO.

PCT/JP05/00155

I.A. FILING DATE	PRIORITY DATE
------------------	---------------

01/07/2005

01/07/2004

30593

HARNES, DICKEY & PIERCE, P.L.C.

P.O. BOX 8910

RESTON, VA 20195

Prev. Docketed
Miss Routs
8/29/06

JUL 06

HARNES, DICKEY & PIERCE, P.L.C.

CONFIRMATION NO. 3750

371 FORMALITIES LETTER



OC000000019439069

Date Mailed: 07/05/2006

NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Copy of the International Application filed on 03/31/2006
- English Translation of the IA filed on 03/31/2006
- Copy of the International Search Report filed on 03/31/2006
- Copy of IPE Report filed on 03/31/2006
- Preliminary Amendments filed on 03/31/2006
- Information Disclosure Statements filed on 03/31/2006
- Biochemical Sequence Diskette filed on 03/31/2006
- Biochemical Sequence Listing filed on 03/31/2006
- Request for Immediate Examination filed on 03/31/2006
- U.S. Basic National Fees filed on 03/31/2006
- Priority Documents filed on 03/31/2006
- Specification filed on 03/31/2006
- Claims filed on 03/31/2006
- Abstracts filed on 03/31/2006
- Drawings filed on 03/31/2006

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a

substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patent Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patent Software Program Help @ ebc@uspto.gov

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

LAMONT M HUNTER

Telephone: (703) 308-9140 EXT 201

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/574,470	PCT/JP05/00155	12480000175US

STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source:

Date Processed by STIC:

10/574,470
JFWP
4-17-06

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06



IFWP

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006

TIME: 12:24:50

Input Set : N:\DA\PTO.DA.txt

Output Set: N:\CRF4\04172006\J574470.raw

3 <110> APPLICANT: Japan Science and Technology Agency
 4 National Institute of Advanced Industrial Science and Technology
 6 <120> TITLE OF INVENTION: Producing process of plants with sterility, plants produced
 by the
 7 process, and use thereof
 9 <130> FILE REFERENCE: A181-08PCT
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/574,470
 C--> 12 <141> CURRENT FILING DATE: 2006-03-31
 12 <150> PRIOR APPLICATION NUMBER: JP 2004-2192
 13 <151> PRIOR FILING DATE: 2004-01-07
 15 <150> PRIOR APPLICATION NUMBER: JP 2004-93796
 16 <151> PRIOR FILING DATE: 2004-03-26
 18 <150> PRIOR APPLICATION NUMBER: JP 2004-221592
 19 <151> PRIOR FILING DATE: 2004-07-29
 21 <150> PRIOR APPLICATION NUMBER: JP 2004-231544
 22 <151> PRIOR FILING DATE: 2004-08-06
 25 <160> NUMBER OF SEQ ID NOS: 164
 27 <170> SOFTWARE: PatentIn Ver. 2.1

Does Not Comply
 Corrected Diskette Needed
 (ps.1)

ERRORED SEQUENCES

2328 <210> SEQ ID NO: 152
 2329 <211> LENGTH: 6
 2330 <212> TYPE: PRT
 E--> 2332 <213> ORGANISM:
 2332 <400> SEQUENCE: 152
 2333 Asp Leu Ser Leu Asp Leu
 2334 1 5
 2337 <210> SEQ ID NO: 153
 2338 <211> LENGTH: 18
 2339 <212> TYPE: DNA
 E--> 2341 <213> ORGANISM:
 2341 <400> SEQUENCE: 153
 2342 gatcttagcc taagcctg
 2345 <210> SEQ ID NO: 154
 2346 <211> LENGTH: 18
 2347 <212> TYPE: DNA
 E--> 2349 <213> ORGANISM:
 2349 <400> SEQUENCE: 154
 2350 caggcttagg ctaagatc

Most of errors shown exist throughout
 the Sequence Listing. Please check subsequent
 sequences for similar errors.

file://C:\CRF4\Outhold\VsJ574470.htm

genus/species

4/17/2006

← PLS
 insert
 mandatory
 numeric
 identifier
 18
 2137
 Response
 18
 which can
 be either
 Artificial
 Unknown
 OR

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006

TIME: 12:24:51

Input Set : N:\DA\PTO.DA.txt

Output Set: N:\CRF4\04172006\J574470.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:2332 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:2341 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:2349 M:282 E: Numeric Field Identifier Missing, <213> is required.

Please type a plus sign (+) inside this box → +

**TRANSMITTAL
FORM***(to be used for all correspondence after initial filing)*

Application Number	10/574,470
Filing Date	March 31, 2006
Inventor(s)	Masaru TAKAGI et al.
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	12480-000175/US

ENCLOSURES (check all that apply)☐ Fee Transmittal Form☐ Fee Attached☒ Amendment☐ After Final☐ Affidavits/declaration(s)☐ Extension of Time Request☐ Express Abandonment Request☐ Information Disclosure Statement☐ Certified Copy of Priority Document(s)☒ Response to Missing Parts/
Incomplete Application☐ Response to Missing
Parts under 37 CFR
1.52 or 1.53☐ Assignment Papers
(for an Application)☐ Letter to the Official Draftsperson and
____ Sheets of Formal Drawing(s)☐ Licensing-related Papers☐ Petition☐ Petition to Convert to a
Provisional Application☐ Power of Attorney, Revocation
Change of Correspondence Address☐ Terminal Disclaimer☐ Request for Refund☐ CD, Number of CD(s) ____☐ After Allowance Communication to
Group☐ LETTER SUBMITTING APPEAL
BRIEF AND APPEAL BRIEF (w/clean
version of pending claims)☐ Appeal Communication to Group
(Notice of Appeal, Brief, Reply Brief)☐ Proprietary Information☐ Status Letter☒ Other Enclosure(s)
(please identify below):

Declaration
Statement Under 37 C.F.R. § 1.821(f)
Copy of Sequence Listing
Computer Readable Format (CRF)
Sequence Listing (CD)
Copy of Notice to File Missing
Requirements

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENTFirm
or
Individual name

Harness, Dickey & Pierce, P.L.C.

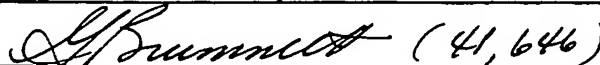
Attorney Name

Donald J. Daley

Reg. No.

34,313

Signature

 (41,646)

Date

August 29, 2006

Mail Stop PCT
PATENT
12480-000175/US

IN THE U.S. PATENT AND TRADEMARK OFFICE

APPLICATION. NO.: 10/574,470
APPLICANT: Masaru TAKAGI et al.
INTERNATIONAL APPL. NO.: PCT/JP2005/000155
CONF.: 3750
FILED: March 31, 2006
FOR: PRODUCING PROCESS OF STERILE
PLANTS, PLANTS OBTAINED BY THE
PROCESS, AND USE OF PLANTS

**RESPONSE TO NOTICE TO FILE MISSING
REQUIREMENTS OF AN APPLICATION**

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314
Mail Stop PCT

August 29, 2006

Sir:

Under the provisions of 37 C.F.R. § 1.494 or 37 C.F.R. § 1.495, attached hereto are the following additional items necessary for entering the national phase in connection with the above-identified PCT international application.

- ☒ Executed Declaration and Power of Attorney.
- ☐ Original ☒ Photocopy
- ☐ The specification attached to the executed Declaration and Power of Attorney is a true copy of the specification which was filed in the U.S. Patent and Trademark Office on

, including any amendments thereto (if applicable) filed on even date therewith.

☒ The undersigned hereby declares that "Attorney Docket No. 12480-000175/US" on page 1 of the attached inventors' Declaration corresponds to Appl. No. 10/574,470, filed March 31, 2006 entitled "PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF PLANTS."

☐ English language specification, claims, and Abstract with () sheets of drawings.

☐ Applicant claims small entity status under 37 C.F.R. § 1.27.

☐ Attached is a copy of Form PCT/DO/EO/905.

☐ _____

☒ No extension fee is required because the undersigned has filed the documents within the allotted time given by the Notification of Missing Requirements (Form PCT/DO/EO/905). However, if for some reason it is determined that an extension of time is necessary, applicant hereby respectfully petitions for an extension of time for the filing of the present paper in accordance with the provisions of 37 C.F.R. § 1.136 and 37 C.F.R. § 1.17.

☐ Applicant(s) hereby respectfully petitions for () month(s) extension of time for the filing of the present paper in accordance with the provisions of 37 C.F.R. § 1.136 and 37 C.F.R. § 1.17. The required fee of \$0.00 is attached hereto.


The Government Filing Surcharge in the amount of \$130 in accordance with 37 C.F.R. §§ 1.494 and 1.492 was **previously paid for** concurrently with the filing of the application on **March 31, 2006.**

- ☒ Submitted concurrently herewith **under separate cover** for recording is an Assignment.
- ☐ A Fee of \$0.00 to cover the increase in fees of the filing Surcharge is enclosed.
- ☐ Check(s) in the amount of \$0.00 to cover the above-mentioned fees is/are enclosed.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKY & PIERCE, P.L.C.

By  (41,646)
Donald J. Daley, Reg. No. 34,313
P.O. Box 8910
Reston, VA 20195
(703) 668-8000

DJD/GPB:ame

Attachments

DECLARATION AND POWER OF ATTORNEY

Atty. Dkt. No.: 12480-000175/US

DECLARATION

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF THE PLANTS

the specification of which (check one)

- ☐ is attached hereto.
or
☒ was filed on January 7, 2005 as Application Serial No. or PCT International Application No. PCT/JP2005/000155 and was amended on November 4, 2005 (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. §§ 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed:

PRIOR FOREIGN APPLICATION(S)				
APPN. SERIAL NO.	COUNTRY	DATE FILED (MM/DD/YYYY)	PRIORITY CLAIM	
			Yes	No
2004-002191	JAPAN	01/07/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2004-093796	JAPAN	03/26/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2004-221592	JAPAN	07/29/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2004-231544	JAPAN	08/06/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DECLARATION AND POWER OF ATTORNEY

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

PRIOR PROVISIONAL APPLICATION(S)	
APPN. SERIAL NO.	DATE FILED (MM/DD/YYYY)

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s) listed below:

PRIOR U.S. APPLICATION(S)		
APPN. SERIAL NO.	DATE FILED (MM/DD/YYYY)	STATUS - PATENTED, PENDING, ABANDONED

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY

I hereby appoint the following attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

John A. Castellano	Reg. No. 35,094
Terry L. Clark	Reg. No. 32,644
Donald J. Daley	Reg. No. 34,313
Gary D. Yacura	Reg. No. 35,416

and all individuals assigned to Customer No. **30593**.

DECLARATION AND POWER OF ATTORNEY

Atty. Dkt. No. 12480-000175/US

Full name of sole or first inventor: Masaru TAKAGI

Inventor's signature: Masaru Takagi

Date: April 19, 2006

Residence: c/o NATIONAL INSTITUTE OF ADVANCED
INDUSTRIAL SCIENCE AND TECHNOLOGY
Tsukuba Central 4, 1-1, Higashi 1-chome, Tsukuba-shi
Ibaraki 305-8562 Japan

Citizenship: Japanese

Mailing Address: SAME AS ABOVE

Full name of second joint inventor: Keiichiro HIRATSU

Inventor's signature: Keiichiro Hiratsu

Date: April 19, 2006

Residence: c/o NATIONAL INSTITUTE OF ADVANCED
INDUSTRIAL SCIENCE AND TECHNOLOGY
Tsukuba Central 4, 1-1, Higashi 1-chome, Tsukuba-shi
Ibaraki 305-8562 Japan

Citizenship: Japanese

Mailing Address: SAME AS ABOVE

Full name of third joint inventor: Nobutaka MITSUDA

Inventor's signature: Nobutaka Mitsuda

Date: April 19, 2006

Residence: c/o NATIONAL INSTITUTE OF ADVANCED
INDUSTRIAL SCIENCE AND TECHNOLOGY
Tsukuba Central 4, 1-1, Higashi 1-chome, Tsukuba-shi
Ibaraki 305-8562 Japan

Citizenship: Japanese

Mailing Address: SAME AS ABOVE

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/574,470

Confirmation No.: 3750

Applicant: Masaru TAKAGI et al.

Group Art Unit: Unassigned

Filing Date: March 31, 2006

Examiner: Unassigned

Title: PRODUCING PROCESS OF STERILE PLANTS, PLANTS
OBTAINED BY THE PROCESS, AND USE OF PLANTS

Attorney Docket: 12480-000175/US

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314
Mail Stop Sequence

August 29, 2006

PRELIMINARY AMENDMENT
and
RESPONSE TO NOTICE TO COMPLY

Sir:

In response to the Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures ("Notice") dated June 29, 2006, the Applicants hereby provide a Sequence Listing, in both hardcopy and computer readable form, and respectfully request entry of this Sequence Listing in order to comply with the requirements of 37 C.F.R. §§ 1.821-1.825.

REMARKS

Favorable reconsideration of this application in light of the following remarks is respectfully requested.

The Sequence Listing has been amended to include additional information at lines <220> and <223> for each sequence identified as an "Artificial Sequence" as indicated in the Raw Sequence Listing Error Summary provided with the Notice. The actual sequences of amino acids and nucleotides have not been amended and are intended to be and are believed to be identical to those originally submitted.

No claims having been canceled or added, the Applicants respectfully submit that claims 1-36 remain properly under consideration in this application.

CONCLUSION


In view of the above remarks, the Applicants respectfully submit that the present application in condition for examination and allowance. A Notice to that effect is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge any underpayment or non-payment of any fees required under 37 C.F.R. §§ 1.16 or 1.17, or credit any overpayment of such fees, to Deposit Account No. 08-0750, including, in particular, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, P.L.C.

By  (41,646)
Donald J. Daley, Reg. No. 34,313

P.O. Box 8910
Reston, VA 20195
(703) 668-8000

DJD/GPB:ame

Enclosures: Statement Under 37 C.F.R. § 1.821(f)
Copy of Sequence Listing
Verification Summary Report (Checker 4.4.0 Output)
Computer Readable Format (CRF) Sequence Listing (CD)

JST_A181-08US Sequence Listing (Amended).txt
SEQUENCE LISTING

<110> Japan Science and Technology Agency
National Institute of Advanced Industrial Science and Technology

<120> Producing process of plants with sterility, plants produced by the process,
and use thereof

<130> A181-08PCT

<150> JP 2004-2192
<151> 2004-01-07

<150> JP 2004-93796
<151> 2004-03-26

<150> JP 2004-221592
<151> 2004-07-29

<150> JP 2004-231544
<151> 2004-08-06

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Synthesized Amino Acid Sequence

<400> 1
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1 5 10

<210> 2
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<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 2
Leu Asp Leu Asn Leu Ala Pro Pro Met Glu Phe
1 5 10

<210> 3
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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Page 1

JST_A181-08US Sequence Listing (Amended).txt
Synthesized Amino Acid Sequence

<400> 3
Leu Asp Leu Asn Leu Ala Ala Ala Ala Ala Ala
1 5 10

<210> 4
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
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Synthesized Amino Acid Sequence

<400> 4
Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
1 5 10

<210> 5
<211> 6
<212> PRT
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<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 5
Asp Leu Glu Leu Arg Leu
1 5

<210> 6
<211> 10
<212> PRT
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<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 6
Leu Asp Leu Gln Leu Arg Leu Gly Tyr Tyr
1 5 10

<210> 7
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 7
Leu Asp Leu Glu Leu Arg Leu
1 5

JST_A181-08US Sequence Listing (Amended).txt

<210> 8
 <211> 11
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 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Amino Acid Sequence

 <400> 8
 Leu Asp Leu Glu Leu Ala Ala Ala Ala Ala Ala
 1 5 10

<210> 9
 <211> 10
 <212> PRT
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 Synthesized Amino Acid Sequence

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 Leu Asp Leu Glu Leu Arg Leu Ala Ala Ala
 1 5 10

<210> 10
 <211> 8
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 Synthesized Amino Acid Sequence

 <400> 10
 Leu Asp Leu Glu Leu Arg Leu Gly
 1 5

<210> 11
 <211> 11
 <212> PRT
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 <220>
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 Synthesized Amino Acid Sequence

 <400> 11
 Phe Asp Leu Asn Phe Ala Pro Leu Asp Cys Val
 1 5 10

<210> 12
 <211> 11
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Page 3

JST_A181-08US Sequence Listing (Amended).txt
Synthesized Amino Acid Sequence

<400> 12
Phe Asp Leu Asn Ile Pro Pro Ile Pro Glu Phe
1 5 10

<210> 13
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
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Synthesized Amino Acid Sequence

<400> 13
Phe Gln Phe Asp Leu Asn Phe Pro Pro Leu Asp Cys Val
1 5 10

<210> 14
<211> 6
<212> PRT
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<220>
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Synthesized Amino Acid Sequence

<400> 14
Asp Leu Asp Leu Arg Leu
1 5

<210> 15
<211> 35
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Synthesized Amino Acid Sequence

<400> 15
Val Gly Pro Thr Val Ser Asp Ser Ser Ser Ala Val Glu Glu Asn Gln
1 5 10 15

Tyr Asp Gly Lys Arg Gly Ile Asp Leu Asp Leu Asn Leu Ala Pro Pro
20 25 30

Met Glu Phe
35

<210> 16
<211> 11
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Synthesized Amino Acid Sequence

JST_A181-08US Sequence Listing (Amended).txt

<400> 16

Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
1 5 10

<210> 17

<211> 12

<212> PRT

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Synthesized Amino Acid Sequence

<400> 17

Leu Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
1 5 10

<210> 18

<211> 204

<212> PRT

<213> Arabidopsis thaliana

<400> 18

Met Glu Arg Ser Asn Ser Ile Glu Leu Arg Asn Ser Phe Tyr Gly Arg
1 5 10 15

Ala Arg Thr Ser Pro Trp Ser Tyr Gly Asp Tyr Asp Asn Cys Gln Gln
20 25 30

Asp His Asp Tyr Leu Leu Gly Phe Ser Trp Pro Pro Arg Ser Tyr Thr
35 40 45

Cys Ser Phe Cys Lys Arg Glu Phe Arg Ser Ala Gln Ala Leu Gly Gly
50 55 60

His Met Asn Val His Arg Arg Asp Arg Ala Arg Leu Arg Leu Gln Gln
65 70 75 80

Ser Pro Ser Ser Ser Ser Thr Pro Ser Pro Pro Tyr Pro Asn Pro Asn
85 90 95

Tyr Ser Tyr Ser Thr Met Ala Asn Ser Pro Pro Pro His His Ser Pro
100 105 110

Leu Thr Leu Phe Pro Thr Leu Ser Pro Pro Ser Ser Pro Arg Tyr Arg
115 120 125

Ala Gly Leu Ile Arg Ser Leu Ser Pro Lys Ser Lys His Thr Pro Glu
130 135 140

Asn Ala Cys Lys Thr Lys Lys Ser Ser Leu Leu Val Glu Ala Gly Glu
145 150 155 160

Ala Thr Arg Phe Thr Ser Lys Asp Ala Cys Lys Ile Leu Arg Asn Asp
165 170 175

Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu Ser Glu
180 185 190

Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala

JST_A181-08US Sequence Listing (Amended).txt

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<210> 19
<211> 30
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<213> Arabidopsis thaliana

<400> 19
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1 5 10 15
Ser Glu Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
20 25 30

<210> 20
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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Synthesized Amino Acid Sequence

<400> 20
Asp Leu Asn Leu Arg Leu
1 5

<210> 21
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 21
Asp Leu Asp Leu Arg Leu
1 5

<210> 22
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 22
Asp Leu Gln Leu Arg Leu
1 5

<210> 23
<211> 6
<212> PRT
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JST_A181-08US Sequence Listing (Amended).txt

<220>

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Synthesized Amino Acid Sequence

<400> 23

Asp Leu Arg Leu Arg Leu
1 5

<210> 24

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 24

Glu Leu Glu Leu Arg Leu
1 5

<210> 25

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 25

Asn Leu Glu Leu Arg Leu
1 5

<210> 26

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 26

Gln Leu Glu Leu Arg Leu
1 5

<210> 27

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 27

Asp Leu Glu Leu Asn Leu
1 5

JST_A181-08US Sequence Listing (Amended).txt

<210> 28
<211> 6
<212> PRT
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Synthesized Amino Acid Sequence

<400> 28
Asp Leu Glu Leu Gln Leu
1 5

<210> 29
<211> 6
<212> PRT
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<220>
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Synthesized Amino Acid Sequence

<400> 29
Thr Leu Glu Leu Arg Leu
1 5

<210> 30
<211> 6
<212> PRT
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<220>
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Synthesized Amino Acid Sequence

<400> 30
Asp Leu Glu Leu Thr Leu
1 5

<210> 31
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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Synthesized Amino Acid Sequence

<400> 31
Ser Leu Glu Leu Arg Leu
1 5

<210> 32
<211> 6
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JST_A181-08US Sequence Listing (Amended).txt

<220>

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Synthesized Amino Acid Sequence

<400> 32

Asp Leu Glu Leu Ser Leu
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<210> 33

<211> 6

<212> PRT

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<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 33

Asp Leu Thr Leu Arg Leu
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<210> 34

<211> 6

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 34

Asp Leu Ser Leu Arg Leu
1 5

<210> 35

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 35

Asp Leu His Leu Arg Leu
1 5

<210> 36

<211> 6

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 36

Asp Leu Glu Phe Arg Leu
1 5

JST_A181-08US Sequence Listing (Amended).txt

<210> 37
<211> 6
<212> PRT
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Synthesized Amino Acid Sequence

<400> 37
Asp Phe Glu Leu Arg Leu
1 5

<210> 38
<211> 6
<212> PRT
<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 38
Ser Leu Asp Leu His Leu
1 5

<210> 39
<211> 6
<212> PRT
<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 39
Asp Leu Thr Leu Lys Leu
1 5

<210> 40
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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Synthesized Amino Acid Sequence

<400> 40
Asp Leu Ser Leu Lys Leu
1 5

<210> 41
<211> 5
<212> PRT
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JST_A181-08US Sequence Listing (Amended).txt

<220>

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Synthesized Amino Acid Sequence

<400> 41

Leu Asp Leu Asn Leu
1 5

<210> 42

<211> 5

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 42

Leu Asp Leu Glu Leu
1 5

<210> 43

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 43

Phe Asp Leu Asn Phe
1 5

<210> 44

<211> 5

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Synthesized Amino Acid Sequence

<400> 44

Phe Asp Leu Asn Ile
1 5

<210> 45

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 45

Phe Asp Leu Asn
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JST_A181-08US Sequence Listing (Amended).txt

<210> 46
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Synthesized Amino Acid Sequence

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Leu Asp Leu Glu Leu Arg Leu
1 5

<210> 47
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Synthesized Amino Acid Sequence

<400> 47
Leu Asp Leu Gln Leu Arg Leu
1 5

<210> 48
<211> 7
<212> PRT
<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 48
Leu Asp Leu Asp Leu Arg Leu
1 5

<210> 49
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
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Synthesized Amino Acid Sequence

<400> 49
Asp Leu Asp Leu Glu Leu Arg Leu
1 5

<210> 50
<211> 8
<212> PRT
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JST_A181-08US Sequence Listing (Amended).txt

<220>

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Synthesized Amino Acid Sequence

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Asp Leu Asp Leu Gln Leu Arg Leu
1 5

<210> 51

<211> 8

<212> PRT

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<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 51

Asp Leu Asp Leu Asp Leu Arg Leu
1 5

<210> 52

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 52

Leu Asp Leu Asp Leu Gln Leu Arg Leu
1 5

<210> 53

<211> 9

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 53

Leu Asp Leu Asp Leu Gln Leu Arg Leu
1 5

<210> 54

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Amino Acid Sequence

<400> 54

Leu Asp Leu Asp Leu Asp Leu Arg Leu
1 5

JST_A181-08US Sequence Listing (Amended).txt

<210> 55
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
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<400> 55
 Asp Leu Gln Leu Arg Leu
 1 5

<210> 56
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 56
 gatcttgatc ttaaccttgc tccacctatg gaattt

36

<210> 57
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 57
 aaattccata ggtggagcaa ggttaagatc aagatc

36

<210> 58
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 58
 cttgatctta accttgctcc acctatggaa ttt

33

<210> 59
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

JST_A181-08US Sequence Listing (Amended).txt

<400> 59
aaattccata ggtggagcaa ggttaagatc aag 33

<210> 60
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 60
cttgatctta accttgctgc tgctgctgct gct 33

<210> 61
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 61
agcagcagca gcagcagcaa ggttaagatc aag 33

<210> 62
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 62
ctggatctag aactccgttt gggtttcgct 30

<210> 63
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 63
agcgaaacc aaacggagtt ctagatccag 30

<210> 64
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 64
 gatctagaac tccgtttg 18

<210> 65
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 65
 caaacggagt tctagatc 18

<210> 66
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 66
 ctggatctac aactccgttt gggttattac 30

<210> 67
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 67
 gtaataaccc aaacggagtt gtagatccag 30

<210> 68
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 68
 ctggatctag aactccgttt g 21

<210> 69
 <211> 21
 <212> DNA
 <213> Artificial Sequence

JST_A181-08US Sequence Listing (Amended).txt

<220>
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 Synthesized DNA Sequence

<400> 69
 caaacggagt tctagatcca g 21

<210> 70
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 70
 ctggatctag aactcgctgc cgcagcggct gca 33

<210> 71
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 71
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<210> 72
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 72
 ctggatctag aactccgttt ggctgccgca 30

<210> 73
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 73
 tgcggcagcc aaacggagtt ctagatccag 30

<210> 74
 <211> 24

JST_A181-08US Sequence Listing (Amended).txt

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 74
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<210> 75
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 75
 acccaaacgg agttctagat ccag 24

<210> 76
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 76
 ttcgatctta attttgcacc gttggattgt gtt 33

<210> 77
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 77
 aacacaatcc aacggtgcaa aattaagatc gaa 33

<210> 78
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 78
 tttgacctca acatccctcc gatccctgaa ttc 33

JST_A181-08US Sequence Listing (Amended).txt

<210> 79
 <211> 33
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 79
 gaattcaggg atcggagggga tggtgaggtc aaa 33

 <210> 80
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 80
 tttcaattcg atcttaattt tccaccgttg gattgtgtt 39

 <210> 81
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 81
 aacacaatcc aacggtggaa aattaagatc gaattgaaa 39

 <210> 82
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 82
 gatctagatc tccgtttg 18

 <210> 83
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 83
 caaacggaga tctagatc 18

JST_A181-08US Sequence Listing (Amended).txt

<210> 84
 <211> 105
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 84
 gtgggtccta ctgtgtcgga ctcgtcctt gcagtggaag agaaccaata tgatgggaaa 60
 agaggaattg atcttgatct taaccttgct ccacctatgg aattt 105

<210> 85
 <211> 105
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 85
 aaattccata ggtggagcaa ggtaagatc aagatcaatt cctcttttcc catcatattg 60
 gttctcttcc actgcagagg acgagtcga cacagtagga cccac 105

<210> 86
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 86
 gatctggatc tagaactccg tttgggtttc gct 33

<210> 87
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 87
 agcgaaaccc aaacggagtt ctagatccag atc 33

<210> 88
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially

JST_A181-08US Sequence Listing (Amended).txt
Synthesized DNA Sequence

<400> 88
cttgatctgg atctagaact ccgtttgggt ttcgct 36

<210> 89
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 89
agcgaaaccc aaacggagtt ctagatccag atcaag 36

<210> 90
<211> 615
<212> DNA
<213> Arabidopsis thaliana

<400> 90
atggagagat caaacagcat agagttgagg aacagcttct atggccgtgc aagaacttca 60
ccatggagct atggagatta tgataattgc caacaggatc atgattatct tctaggggtt 120
tcatggccac caagatccta cacttgcagc ttctgcaaaa gggaattcag atcggctcaa 180
gcacttgggt gccacatgaa tgttcacaga agagacagag caagactcag attacaacag 240
tctccatcat catcttcaac accttctcct ccttacccta accctaatta ctcttactca 300
accatggcaa actctcctcc tctcatcat tctcctctaa ccctatttcc aaccctttct 360
cctccatcct caccaagata tagggcaggt ttgatccgtt ccttgagccc caagtcaaaa 420
catacaccag aaaacgcttg taagactaag aaatcatctc ttttagtgga ggctggagag 480
gctacaagg taccagtaa agatgcttgc aagatcctga ggaatgatga aatcatcagc 540
ttggagcttg agattgggtt gattaacgaa tcagagcaag atctggatct agaactccgt 600
ttgggtttcg cttaa 615

<210> 91
<211> 93
<212> DNA
<213> Arabidopsis thaliana

<400> 91
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ctggatctag aactccgttt gggtttcgct taa 93

<210> 92
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 92
gatctaaacc tccgtctg 18

<210> 93
<211> 18

JST_A181-08US Sequence Listing (Amended).txt

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 93
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<210> 94
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 94
 gatctagacc tccgtctg 18

<210> 95
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
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 Synthesized DNA Sequence

<400> 95
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<210> 96
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 96
 gatctacagc tccgtctg 18

<210> 97
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 97
 cagacggagc tgtagatc 18

JST_A181-08US Sequence Listing (Amended).txt

<210> 98	
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<210> 99	
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<210> 100	
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<210> 101	
<211> 18	
<212> DNA	
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<210> 102	
<211> 18	
<212> DNA	
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JST_A181-08US Sequence Listing (Amended).txt

<210> 103
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
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<400> 103
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<210> 104
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 104
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<210> 105
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 105
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<210> 106
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 106
gatctagaac tcaacttg 18

<210> 107
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

JST_A181-08US Sequence Listing (Amended).txt

<400> 107		
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<210> 108		
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Synthesized DNA Sequence		
<400> 108		
gatctagaac tccagttg		18
<210> 109		
<211> 18		
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<213> Artificial Sequence		
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Synthesized DNA Sequence		
<400> 109		
caactggagt tctagatc		18
<210> 110		
<211> 18		
<212> DNA		
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Synthesized DNA Sequence		
<400> 110		
acgcttgaat taagactc		18
<210> 111		
<211> 18		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:Artificially		
Synthesized DNA Sequence		
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gagtcttaat tcaagcgt		18
<210> 112		
<211> 18		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:Artificially		

JST_A181-08US Sequence Listing (Amended).txt
Synthesized DNA Sequence

<400> 112
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<210> 113
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
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<400> 113
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<210> 114
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 114
agccttgaat taagactc 18

<210> 115
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 115
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<210> 116
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 116
gatcttgaat taagcctc 18

<210> 117
<211> 18
<212> DNA
<213> Artificial Sequence

JST_A181-08US Sequence Listing (Amended).txt

<220>
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 Synthesized DNA Sequence

<400> 117
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<210> 118
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 118
 gatcttacct taagactc 18

<210> 119
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
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<400> 119
 gagtcttaag gtaagatc 18

<210> 120
 <211> 18
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 <213> Artificial Sequence

<220>
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 Synthesized DNA Sequence

<400> 120
 gatcttagct taagactc 18

<210> 121
 <211> 18
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 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 121
 gagtcttaag ctaagatc 18

<210> 122
 <211> 18
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 122

gatcttcact taagactc

18

<210> 123

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 123

gagtcttaag tgaagatc

18

<210> 124

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 124

gatctcgaat ttcgtctc

18

<210> 125

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 125

gagacgaaat tcgagatc

18

<210> 126

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 126

gatttcgaac tacgtctc

18

<210> 127

JST_A181-08US Sequence Listing (Amended).txt

<211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 127
 gagacgtagt tcgaaatc 18

 <210> 128
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

 <400> 128
 tcgcttgatc tacacctg 18

 <210> 129
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 129
 caggtgtaga tcaagcga 18

 <210> 130
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 130
 gatcttacgc taaagctg 18

 <210> 131
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 131
 cagctttagc gtaagatc 18

JST_A181-08US Sequence Listing (Amended).txt

<210> 132
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
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 Synthesized DNA Sequence

<400> 132
 gatcttagcc taaagctg

18

<210> 133
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 133
 cagctttagg ctaagatc

18

<210> 134
 <211> 232
 <212> PRT
 <213> Arabidopsis thaliana

<400> 134
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 20 25 30
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 35 40 45
 Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr
 50 55 60
 Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp
 65 70 75 80
 Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu
 85 90 95
 Thr Asn Arg Asn Leu Arg Thr Gln Ile Lys Gln Arg Leu Gly Glu Cys
 100 105 110
 Leu Asp Glu Leu Asp Ile Gln Glu Leu Arg Arg Leu Glu Asp Glu Met
 115 120 125
 Glu Asn Thr Phe Lys Leu Val Arg Glu Arg Lys Phe Lys Ser Leu Gly
 130 135 140
 Asn Gln Ile Glu Thr Thr Lys Lys Lys Asn Lys Ser Gln Gln Asp Ile
 145 150 155 160
 Gln Lys Asn Leu Ile His Glu Leu Glu Leu Arg Ala Glu Asp Pro His
 165 170 175
 Tyr Gly Leu Val Asp Asn Gly Gly Asp Tyr Asp Ser Val Leu Gly Tyr
 180 185 190
 Gln Ile Glu Gly Ser Arg Ala Tyr Ala Leu Arg Phe His Gln Asn His
 195 200 205
 His His Tyr Tyr Pro Asn His Gly Leu His Ala Pro Ser Ala Ser Asp
 210 215 220
 Ile Ile Thr Phe His Leu Leu Glu
 225 230

JST_A181-08US Sequence Listing (Amended).txt

<210> 135
 <211> 699
 <212> DNA
 <213> Arabidopsis thaliana

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 gctagggttt cgattatcat gttctctagc tccaacaagc ttcattgagta tatcagccct 180
 aacaccacaa cgaaggagat cgtagatctg taccaacta tttctgatgt cgatgtttgg 240
 gccactcaat atgagcgaat gcaagaaacc aagaggaaac tggtggagac aaatagaaat 300
 ctccggactc agatcaagca gaggctaggg gagtggtttg acgagcttga cattcaggag 360
 ctgctgctgc ttgaggatga aatggaaaac actttcaaac tcgttcgcga gcgcaagttc 420
 aaatctcttg ggaatcagat cgagaccacc aagaaaaaga acaaaagtca acaagacata 480
 caaaagaatc tcatacatga gctggaaacta agagctgaag atcctcacta tggactagta 540
 gacaatggag gagattacga ctcagttctt ggataccaaa tcgaagggtc acgtgcttac 600
 gctcttcgtt tccaccagaa ccatcaccac tattacccca accatggcct tcatgcaccc 660
 tctgcctctg acatcattac cttccatctt cttgaataa 699

<210> 136
 <211> 365
 <212> PRT
 <213> Arabidopsis thaliana

<400> 136
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 20 25 30
 Tyr Leu Arg Lys Lys Val Asn Ser Ile Glu Ile Asp Leu Asp Val Ile
 35 40 45
 Arg Asp Val Asp Leu Asn Lys Leu Glu Pro Trp Asp Ile Gln Glu Met
 50 55 60
 Cys Lys Ile Gly Thr Thr Pro Gln Asn Asp Trp Tyr Phe Phe Ser His
 65 70 75 80
 Lys Asp Lys Lys Tyr Pro Thr Gly Thr Arg Thr Asn Arg Ala Thr Ala
 85 90 95
 Ala Gly Phe Trp Lys Ala Thr Gly Arg Asp Lys Ile Ile Tyr Ser Asn
 100 105 110
 Gly Arg Arg Ile Gly Met Arg Lys Thr Leu Val Phe Tyr Lys Gly Arg
 115 120 125
 Ala Pro His Gly Gln Lys Ser Asp Trp Ile Met His Glu Tyr Arg Leu
 130 135 140
 Asp Asp Asn Ile Ile Ser Pro Glu Asp Val Thr Val His Glu Val Val
 145 150 155 160
 Ser Ile Ile Gly Glu Ala Ser Gln Asp Glu Gly Trp Val Val Cys Arg
 165 170 175
 Ile Phe Lys Lys Lys Asn Leu His Lys Thr Leu Asn Ser Pro Val Gly
 180 185 190

JST_A181-08US Sequence Listing (Amended).txt

Gly Ala Ser Leu Ser Gly Gly Gly Asp Thr Pro Lys Thr Thr Ser Ser
195 200 205

Gln Ile Phe Asn Glu Asp Thr Leu Asp Gln Phe Leu Glu Leu Met Gly
210 215 220

Arg Ser Cys Lys Glu Glu Leu Asn Leu Asp Pro Phe Met Lys Leu Pro
225 230 235 240

Asn Leu Glu Ser Pro Asn Ser Gln Ala Ile Asn Asn Cys His Val Ser
245 250 255

Ser Pro Asp Thr Asn His Asn Ile His Val Ser Asn Val Val Asp Thr
260 265 270

Ser Phe Val Thr Ser Trp Ala Ala Leu Asp Arg Leu Val Ala Ser Gln
275 280 285

Leu Asn Gly Pro Thr Ser Tyr Ser Ile Thr Ala Val Asn Glu Ser His
290 295 300

Val Gly His Asp His Leu Ala Leu Pro Ser Val Arg Ser Pro Tyr Pro
305 310 315 320

Ser Leu Asn Arg Ser Ala Ser Tyr His Ala Gly Leu Thr Gln Glu Tyr
325 330 335

Thr Pro Glu Met Glu Leu Trp Asn Thr Thr Thr Ser Ser Leu Ser Ser
340 345 350

Ser Pro Gly Pro Phe Cys His Val Ser Asn Gly Ser Gly
355 360 365

<210> 137
<211> 1098
<212> DNA
<213> Arabidopsis thaliana

<400> 137
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atcgagatcg atcttgatgt cattcgcgac gttgatctca acaagctcga gccttgggac 180
attcaagaga tgtgtaaaat aggaacaacg ccacaaaacg actggtattt ctttagccac 240
aaggacaaaa aatatccgac gggaacgaga actaacagag ccactgcggc tggattttgg 300
aaagcaactg gccgcgacaa gatcatatat agcaatggcc gtagaattgg gatgagaaag 360
actcttggtt tctacaaagg ccgagctcct cacggccaaa aatctgattg gatcatgcat 420
gaatatagac tcgatgacaa cattatttcc cccgaggatg tcaccgttca tgaggtcgtg 480
agtattatag gggaagcatc acaagacgaa ggatgggtgg tgtgtcgtat tttcaagaag 540
aagaatcttc acaaaaccct aaacagtccc gtcggaggag cttccctgag cggcggcgga 600
gatacgccga agacgacatc atctcagatc ttcaacgagg atactctcga ccaatttctt 660
gaacttatgg ggagatcttg taaagaagag ctaaactctg accctttcat gaaactccca 720
aacctcgaaa gccctaacag tcaggcaatc aacaactgcc acgtaagctc tcccgcact 780
aatcataata tccacgtcag caacgtggtc gaactagct ttgttactag ctgggcggct 840
ttagaccgcc tcgtggcctc gcagcttaac ggaccacat catattcaat tacagccgtc 900
aatgagagcc acgtgggcca tgatcatctc gctttgcctt ccgtccgac tccgtacccc 960
agcctaacc ggtccgcttc gtaccacgcc ggtttaacac aggaatatac accggagatg 1020
gagctatgga atacgacgac gtcgtctcta tcgtcatcgc ctggccatt ttgtcacgtg 1080
tcgaatggta gtggataa 1098

<210> 138

JST_A181-08US Sequence Listing (Amended).txt

<211> 367

<212> PRT

<213> Arabidopsis thaliana

<400> 138

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20 25 30Gly His Gly Cys Trp Ser Ser Val Pro Lys His Ala Gly Thr Tyr Thr
35 40 45His Ile His Gly Phe Cys Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu
50 55 60Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Ser
65 70 75 80Pro Gln Glu Ala Ala Leu Ile Ile Glu Leu His Ser Ile Leu Gly Asn
85 90 95Arg Trp Ala Gln Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu
100 105 110Val Lys Asn Phe Trp Asn Ser Ser Ile Lys Lys Lys Leu Met Ser His
115 120 125His His His Gly His His His His His Leu Ser Ser Met Ala Ser Leu
130 135 140Leu Thr Asn Leu Pro Tyr His Asn Gly Phe Asn Pro Thr Thr Val Asp
145 150 155 160Asp Glu Ser Ser Arg Phe Met Ser Asn Ile Ile Thr Asn Thr Asn Pro
165 170 175Asn Phe Ile Thr Pro Ser His Leu Ser Leu Pro Ser Pro His Val Met
180 185 190Thr Pro Leu Met Phe Pro Thr Ser Arg Glu Gly Asp Phe Lys Phe Leu
195 200 205Thr Thr Asn Asn Pro Asn Gln Ser His His His Asp Asn Asn His Tyr
210 215 220Asn Asn Leu Asp Ile Leu Ser Pro Thr Pro Thr Ile Asn Asn His His
225 230 235 240Gln Pro Ser Leu Ser Ser Cys Pro His Asp Asn Asn Leu Gln Trp Pro
245 250 255Ala Leu Pro Asp Phe Pro Ala Ser Thr Ile Ser Gly Phe Gln Glu Thr
260 265 270Leu Gln Asp Tyr Asp Asp Ala Asn Lys Leu Asn Val Phe Val Thr Pro
275 280 285Phe Asn Asp Asn Ala Lys Lys Leu Leu Cys Gly Glu Val Leu Glu Gly
290 295 300Lys Val Leu Ser Ser Ser Ser Pro Ile Ser Gln Asp His Gly Leu Phe
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305 310 315 320
 Leu Pro Thr Thr Tyr Asn Phe Gln Met Thr Ser Thr Ser Asp His Gln
 325 330 335
 His His His Arg Val Asp Ser Tyr Ile Asn His Met Ile Ile Pro Ser
 340 345 350
 Ser Ser Ser Ser Ser Pro Ile Ser Cys Gly Gln Tyr Val Ile Thr
 355 360 365

<210> 139
 <211> 1104
 <212> DNA
 <213> Arabidopsis thaliana

<400> 139
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 gaagacgaaa agctcatcaa ctacatcaat tcatatggcc atggatgttg gagctctgtt 120
 cctaaacatg caggcactta tacacatata catgggtttt gtttgcagag atgtggaaaag 180
 agttgtagat taagatggat aaattatcta agacctgac ttaaacgtgg aagcttctct 240
 cctcaagaag ctgctcttat cattgagctt cacagcattc ttggtaacag atgggctcaa 300
 attgctaaac atctacctgg aagaacagat aacgagggtca agaatttctg gaactcgagc 360
 attaaaaaga agctcatgtc tcaccatcat cacgggtcatc atcatcatca tctctcttcc 420
 atggcgagtt tgctcacaaa ccttccttat cacaatggat tcaaccctac tacagtcgac 480
 gatgaaagtt caagattcat gtccaatatc atcacaaaca ctaaccctaa ttctcatcact 540
 ccaagccatc tctctcttcc ttctctctcat gttatgacct cattgatgtt cccaacctct 600
 agagaaggag atttcaagtt tctaaccaca aacaacccaa accaatctca tcaccatgat 660
 aataaccatt acaacaacct cgacattttg tcaccacac caactataaa caatcatcat 720
 caaccttcac tttcttcttg tcctcatgat aataatctcc aatggccagc gttaccagat 780
 ttcccagcga gtaccatttc tggtttccaa gaaacccttc aagattatga tgatgctaata 840
 aaactcaacg tgtttgtgac accattcaac gataatgcc aaaaagtatt atgtggagaa 900
 gttctcgaag gcaaagtact atcttctctc tcaccaatct cacaagatca cggccitttt 960
 cttcccacca cgtacaactt tcaaagtact tctacgagt atcatcaaca tcatcatcga 1020
 gtggactcat acatcaatca catgatcata ccatcatcat cctcatcgtc gccaatctct 1080
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<210> 140
 <211> 253
 <212> PRT
 <213> Arabidopsis thaliana

<400> 140
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 Lys Ser Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr
 20 25 30
 Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys
 35 40 45
 Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val
 50 55 60
 Phe Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Val Lys
 65 70 75 80
 Gly Thr Ile Glu Arg Tyr Lys Lys Ala Ile Ser Asp Asn Ser Asn Thr
 85 90 95

JST_A181-08US Sequence Listing (Amended).txt

Gly Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
 100 105 110

Lys Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu
 115 120 125

Met Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu
 130 135 140

Glu Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn
 145 150 155 160

Glu Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp
 165 170 175

Leu His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu
 180 185 190

Arg Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu
 195 200 205

Gln Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg
 210 215 220

Asn Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser
 225 230 235 240

Ser Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val
 245 250

<210> 141
 <211> 762
 <212> DNA
 <213> Arabidopsis thaliana

<400> 141
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 cgtagaaatg gtttgctcaa gaaagcttac gagctctctg ttctttgtga tgctgaagtc 180
 gcactcatcg tcttctctag ccgtggctcg ctctatgagt actctaaca cagtgtaaaa 240
 gggactattg agaggtacaa gaaggcaata tcggacaatt ctaacaccgg atcgggtggca 300
 gaaattaatg cacagtatta tcaacaagaa tcagccaaat tgcgtcaaca aataatcagc 360
 atacaaaact ccaacaggga attgatgggt gagacgatag ggtcaatgtc tcccaaagag 420
 cttaggaact tggaaggcag attagagaga agtattaccg gaatccgatc caagaagaat 480
 gagctcttat tttctgaaat cgactacatg cagaaaagag aagttgattt gcataacgat 540
 aaccagattc ttcgtgcaaa gatagctgaa aatgagagga acaatccgag tataagtcta 600
 atgccaggag gatctaacta cgagcagctt atgccaccac ctcaaacgca atctcaaccg 660
 ttgtattcac ggaattattt ccaagtcgcg gcattgcaac ctaacaatca ccattactca 720
 tccgcgggtc gccaaagacca aaccgctctc cagttagtgt aa 762

<210> 142
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 142
 agttagttac ttaagcttgg gcccc

JST_A181-08US Sequence Listing (Amended).txt

<210> 143
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

 <400> 143
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 <210> 144
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

 <400> 144
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 <210> 145
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

 <400> 145
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 <210> 146
 <211> 82
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

 <400> 146
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 cgggggtacc gtcgacgagc tc 82

 <210> 147
 <211> 73
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

JST_A181-08US Sequence Listing (Amended).txt

<400> 147
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aattgtggat cct 73

<210> 148
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

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<210> 149
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
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Synthesized DNA Sequence

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<210> 150
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 150
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<210> 151
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 151
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<210> 152
<211> 6
<212> PRT
<213> Artificial Sequence

JST_A181-08US Sequence Listing (Amended).txt

<220>

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Synthesized Amino Acid Sequence

<400> 152

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1 5

<210> 153

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 153

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18

<210> 154

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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 154

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18

<210> 155

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 155

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27

<210> 156

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

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23

<210> 157

<211> 30

JST_A181-08US Sequence Listing (Amended).txt

<212> DNA
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<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

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<210> 158
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 <212> DNA
 <213> Artificial Sequence

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 Synthesized Primer Sequence

<400> 158
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<210> 159
 <211> 75
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 159
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 taccgtcgac gagct 75

<210> 160
 <211> 67
 <212> DNA
 <213> Artificial Sequence

<220>
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 aattgtg 67

<210> 161
 <211> 28
 <212> DNA
 <213> Artificial Sequence

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 Synthesized DNA Sequence

<400> 161
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JST_A181-08US Sequence Listing (Amended).txt

<210> 162
<211> 25
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<220>
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Synthesized DNA Sequence

<400> 162
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<210> 163
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<212> DNA
<213> Artificial Sequence

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Synthesized DNA Sequence

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<210> 164
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 164
cttaagcgaa acccaaacgg agttctagat ccagatccag 40

DJD



UNITED STATES PATENT AND TRADEMARK OFFICE 12480-000175/US

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/574,470	Masaru Takagi	12480000175US

INTERNATIONAL APPLICATION NO.

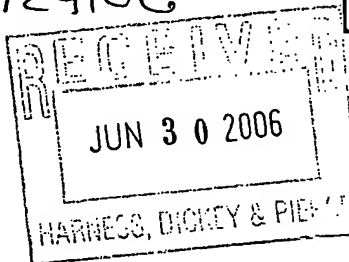
PCT/JP05/00155

I.A. FILING DATE	PRIORITY DATE
01/07/2005	01/07/2004

30593

HARNES, DICKEY & PIERCE, P.L.C.
 P.O. BOX 8910
 RESTON, VA 20195

Miss reg.
 8/29/06



CONFIRMATION NO. 3750

371 FORMALITIES LETTER



OC000000319439069

Date Mailed: 06/29/2006

NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Copy of the International Application filed on 03/31/2006
- English Translation of the IA filed on 03/31/2006
- Copy of the International Search Report filed on 03/31/2006
- Copy of IPE Report filed on 03/31/2006
- Preliminary Amendments filed on 03/31/2006
- Information Disclosure Statements filed on 03/31/2006
- Biochemical Sequence Diskette filed on 03/31/2006
- Biochemical Sequence Listing filed on 03/31/2006
- Request for Immediate Examination filed on 03/31/2006
- U.S. Basic National Fees filed on 03/31/2006
- Priority Documents filed on 03/31/2006
- Specification filed on 03/31/2006
- Claims filed on 03/31/2006
- Abstracts filed on 03/31/2006
- Drawings filed on 03/31/2006

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a

substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patentin Software Program Help @ ebc@uspto.gov

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

LAMONT M HUNTER

Telephone: (703) 308-9140 EXT 201

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/574,470	PCT/JP05/00155	12480000175US

STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source:

Date Processed by STIC:

10/574,470
JFWP
4-17-06

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06



IFWP

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006
TIME: 12:24:50

Input Set : N:\DA\PTO.DA.txt
Output Set: N:\CRF4\04172006\J574470.raw

3 <110> APPLICANT: Japan Science and Technology Agency
4 National Institute of Advanced Industrial Science and Technology
6 <120> TITLE OF INVENTION: Producing process of plants with sterility, plants produced
by the
7 process, and use thereof
9 <130> FILE REFERENCE: A181-08PCT
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/574,470
C--> 12 <141> CURRENT FILING DATE: 2006-03-31
12 <150> PRIOR APPLICATION NUMBER: JP 2004-2192
13 <151> PRIOR FILING DATE: 2004-01-07
15 <150> PRIOR APPLICATION NUMBER: JP 2004-93796
16 <151> PRIOR FILING DATE: 2004-03-26
18 <150> PRIOR APPLICATION NUMBER: JP 2004-221592
19 <151> PRIOR FILING DATE: 2004-07-29
21 <150> PRIOR APPLICATION NUMBER: JP 2004-231544
22 <151> PRIOR FILING DATE: 2004-08-06
25 <160> NUMBER OF SEQ ID NOS: 164
27 <170> SOFTWARE: PatentIn Ver. 2.1

Does Not Comply
Corrected Diskette Needed

(pg.1)

ERRORED SEQUENCES

2328 <210> SEQ ID NO: 152
2329 <211> LENGTH: 6
2330 <212> TYPE: PRT
E--> 2332 <213> ORGANISM: pls insert
2332 <400> SEQUENCE: 152
2333 Asp Leu Ser Leu Asp Leu
2334 1 5
2337 <210> SEQ ID NO: 153
2338 <211> LENGTH: 18
2339 <212> TYPE: DNA
E--> 2341 <213> ORGANISM: pls insert
2341 <400> SEQUENCE: 153
2342 gatcttagcc taagcctg
2345 <210> SEQ ID NO: 154
2346 <211> LENGTH: 18
2347 <212> TYPE: DNA
E--> 2348 <213> ORGANISM: same error
2349 <400> SEQUENCE: 154
2350 caggcttagg ctaagatc

Some of errors shown exist throughout
the Sequence Listing. Please check subsequent
sequences for similar errors.

file://C:\CRF4\Outhold\VsrfJ574470.htm

← Pls
insert
mandatory
numeric
identifier
<213>
Response
which can
be either
Artificial
Unknown
OR
4/17/2006
genus/species

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006

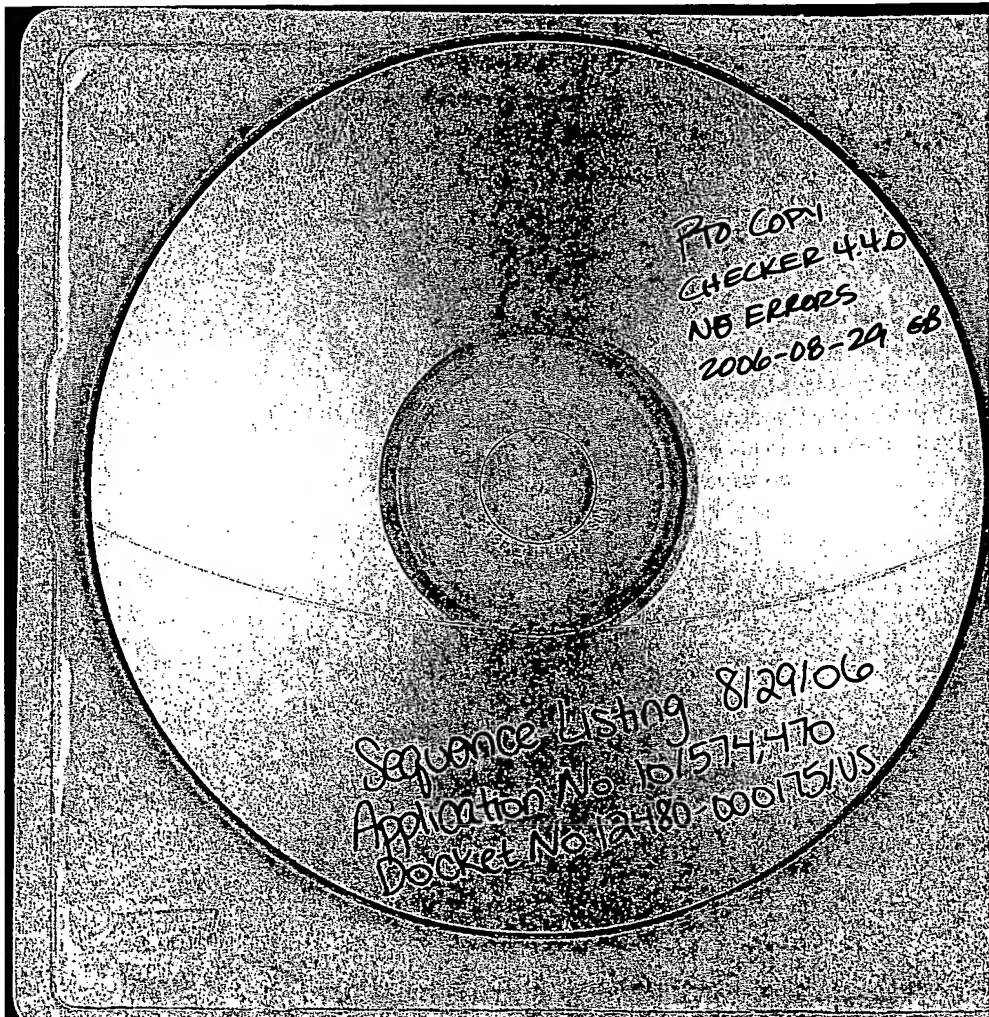
TIME: 12:24:51


Input Set : N:\DA\PTO.DA.txt

Output Set: N:\CRF4\04172006\J574470.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:2332 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:2341 M:282 E: Numeric Field Identifier Missing, <213> is required.
L:2349 M:282 E: Numeric Field Identifier Missing, <213> is required.

Applicant(s): Masaru TAKAGI et al.	Case No.: 12480-000175/US
Serial No.: 11/574,470	Filing Date: March 31, 2006
Title: PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF THE PLANTS	
Transmittal Letter Submitting Documents for Completion of an Application Declaration Preliminary Amendment Statement Under 37 C.F.R. 1.821(f) Hard Copy of Sequence Listing Computer Readable Format (CRF) Sequence Listing (CD) Copy of Notice to File Missing Requirements	
By stamping and returning to Harness, Dickey & Pierce, P.L.C.	
Due: 08/29/2006	Attorney: DJD/GPB/ame USPTO Date Stamp FILED: 08/29/2006



Applicant(s):	Masaru TAKAGI et al.	Case No.:	12480-000175/US
Serial No.:	11/574,470	Filing Date:	March 31, 2006
Title: PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF THE PLANTS			
Transmittal Letter Submitting Documents for Completion of an Application Declaration Preliminary Amendment Statement Under 37 C.F.R. 1.821(f) Hard Copy of Sequence Listing Computer Readable Format (CRF) Sequence Listing (CD) Copy of Notice to File Missing Requirements			
By stamping and returning to Harness, Dickey & Pierce, P.L.C.		USPTO Date Stamp	
Due:	08/29/2006	Attorney:	DJD/GPB/ame
		FILED: 08/29/2006	

20

Brummett, Gregory P.

From: Corrigan, Anne-Marie [Anne-Marie.Corrigan@USPTO.GOV]
Sent: Friday, August 31, 2007 2:59 PM
To: Brummett, Gregory P.
Cc: Hunter, Lamont
Subject: RE: 10/574470

Mr. Brummett:

1) The Sequence Listing CD filed August 29, 2006, had been listed as an "artifact," and stored in artifact. It was retrieved, yesterday (8/30/07) and delivered to my building on the USPTO campus. I informed the PTO group which processes CRF's (computer readable forms) that I had a RUSH case; a group member picked up the CD, this morning. It was processed, and I annotated it: one error found.

2) The error in the processed CD was in Sequence 55 (see below).

<210> 55
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

The above <223> explantion had one incorrect part: Sequence 55 is not a DNA sequence: it is an amino acid sequence. Thus, the correct response would be "Artificially Synthesized amino acid sequence." Checker would not note this error because when it spots a "<213> Artificial Sequence," it only checks for a <220> line and a <223> line. It cannot read the <223> response. That is why Checker did not flag this sequence as errored.

As for the following portion of your e-mail:

"It is also my understanding that the Notice of Defective Response dated July 30, 2007, which was based solely on the Sequence Listing filed on March 31, 2006, should be withdrawn in favor of a new Notice regarding any deficiencies noted in the listing provided August 29, 2006. If my understanding is incorrect or incomplete in any regard, please advise accordingly."

Since I do not work in the PCT DO/EO office, I cannot respond to your statements: only Mr. Hunter can do so.

Thank you,
Anne-Marie Corrigan

Anne-Marie Corrigan
STIC Systems Branch

Remsen 2B15
tele.: 571-272-2501
fax: 571-273-0221
anne-marie.corrigan@uspto.gov

-----Original Message-----

From: Brummett, Gregory P. [mailto:gbrummett@hdp.com]
Sent: Friday, August 31, 2007 2:29 PM
To: Corrigan, Anne-Marie
Cc: Hunter, Lamont
Subject: 10/574470

Ms. Corrigan,

Thank you for your assistance with this matter. I understand from our conversations that the Sequence Listing CD filed August 29, 2006, was located at the Office and has now been processed. It is also my understanding that the Notice of Defective Response dated July 30, 2007, which was based solely on the Sequence Listing filed on March 31, 2006, should be withdrawn in favor of a new Notice regarding any deficiencies noted in the listing provided August 29, 2006. If my understanding is incorrect or incomplete in any regard, please advise accordingly.

With respect to the August 29, 2006, Sequence Listing, it is also my understanding that one error was noted during the processing, specifically the mischaracterization in line <212> of the associated sequence. I have reviewed our copy of the August 29, 2006, Sequence Listing and was unable to identify any SEQ ID NO. that reflects this problem through manual review and application of Checker 4.4.0 and I remain, accordingly, perplexed by this new error. Is this a problem that Checker should flag? Please advise.

I believe in the next attempt I will utilize the EFS for filing the Sequence Listing and hopefully expedite the process.

Best regards,

Greg Brummett

Gregory P. Brummett
Harness, Dickey & Pierce, P.L.C.
11730 Plaza America Drive
Suite 600
Reston, Virginia 20190
T: (703) 668-8034
F: (703) 668-8200
gbrummett@hdp.com

10/574,470 Producing process of sterile plants plants obtained by the process and 06-30-
use of the plants 2009::08:58:52

This application is officially maintained in electronic form. To View: Click the desired Document Description. To Download and Print: Check the desired document(s) and click PDF.

Bibliographic Data

Mail Room Date	Document Code	Document Description	Document Category	Page Count
05-18-2009	IMIS	Miscellaneous Internal Document	PROSECUTION	1
05-14-2009	ABN	Abandonment	PROSECUTION	2
11-13-2007	TRAN.LET	Transmittal Letter	PROSECUTION	5
11-13-2007	IDS	Information Disclosure Statement (IDS) Filed (SB/08)	PROSECUTION	1
11-13-2007	NPL	NPL Documents	PRIOR ART	2
11-13-2007	NPL	NPL Documents	PRIOR ART	8
09-04-2007	SEQ.TXT	Sequence Listing (Text File)	PROSECUTION	1
09-04-2007	A.PE	Preliminary Amendment	PROSECUTION	1
09-04-2007	REM	Applicant Arguments/Remarks Made in an Amendment	PROSECUTION	2
09-04-2007	N417	EFS Acknowledgment Receipt	PROSECUTION	2
08-29-2007	SEQ.TXT	Sequence Listing (Text File)	PROSECUTION	1
09-22-2006	IDS	Information Disclosure Statement (IDS) Filed (SB/08)	PROSECUTION	7
09-22-2006	NPL	NPL Documents	PRIOR ART	34
09-22-2006	FOR	Foreign Reference	PRIOR ART	20
09-22-2006	NPL	NPL Documents	PRIOR ART	9
09-22-2006	NPL	NPL Documents	PRIOR ART	5
09-22-2006	NPL	NPL Documents	PRIOR ART	18
09-22-2006	NPL	NPL Documents	PRIOR ART	11
09-22-2006	NPL	NPL Documents	PRIOR ART	11
09-22-2006	NPL	NPL Documents	PRIOR ART	11
09-22-2006	NPL	NPL Documents	PRIOR ART	13
09-22-2006	NPL	NPL Documents	PRIOR ART	11
09-22-2006	NPL	NPL Documents	PRIOR ART	5
09-22-2006	NPL	NPL Documents	PRIOR ART	16
09-22-2006	NPL	NPL Documents	PRIOR ART	1
09-22-2006	NPL	NPL Documents	PRIOR ART	4
09-22-2006	NPL	NPL Documents	PRIOR ART	10
09-22-2006	NPL	NPL Documents	PRIOR ART	22
09-22-2006	NPL	NPL Documents	PRIOR ART	16
09-22-2006	NPL	NPL Documents	PRIOR ART	6
09-22-2006	NPL	NPL Documents	PRIOR ART	6
09-22-2006	NPL	NPL Documents	PRIOR ART	10
09-22-2006	NPL	NPL Documents	PRIOR ART	10
08-29-2006	PEFR	Applicant Response to Pre-Exam Formalities Notice	PROSECUTION	6
08-29-2006	OATH	Oath or Declaration filed	PROSECUTION	3
08-29-2006	A.PE	Preliminary Amendment	PROSECUTION	1
08-29-2006	REM	Applicant Arguments/Remarks Made in an Amendment	PROSECUTION	2
08-29-2006	SEQLIST	Sequence Listing	PROSECUTION	40
08-29-2006	CRFD	Computer Readable Form (CRF) for Sequence Listing - Defective	PROSECUTION	3
08-29-2006	ARTIFACT	Artifact sheet indicating an item has been	PROSECUTION	1

		filed which cannot be scanned		
08-29-2006	IMIS	Miscellaneous Internal Document	PROSECUTION	1
08-29-2006	PEFN	Pre-Exam Formalities Notice	PROSECUTION	2
07-05-2006	M905	Notice of DO/EO Missing Requirements Mailed	PROSECUTION	2
04-17-2006	CRFD	Computer Readable Form (CRF) for Sequence Listing - Defective	PROSECUTION	3
03-31-2006	TRNA	Transmittal of New Application	PROSECUTION	4
03-31-2006	SPEC	Specification	PROSECUTION	93
03-31-2006	CLM	Claims	PROSECUTION	12
03-31-2006	ABST	Abstract	PROSECUTION	1
03-31-2006	DRW	Drawings-only black and white line drawings	PROSECUTION	14
03-31-2006	WFEE	Fee Worksheet (PTO-875)	PROSECUTION	1
03-31-2006	SEQLIST	Sequence Listing	PROSECUTION	52
03-31-2006	A.PE	Preliminary Amendment	PROSECUTION	2
03-31-2006	CLM	Claims	PROSECUTION	10
03-31-2006	REM	Applicant Arguments/Remarks Made in an Amendment	PROSECUTION	2
03-31-2006	IDS	Information Disclosure Statement (IDS) Filed (SB/08)	PROSECUTION	4
03-31-2006	FOR	Foreign Reference	PRIOR ART	138
03-31-2006	FOR	Foreign Reference	PRIOR ART	454
03-31-2006	NPL	NPL Documents	PRIOR ART	7
03-31-2006	NPL	NPL Documents	PRIOR ART	11
03-31-2006	NPL	NPL Documents	PRIOR ART	6
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	1
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	6
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	4
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	1
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	97
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	5
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	96
03-31-2006	371P	Documents submitted with 371 Applications	PROSECUTION	1
03-31-2006	FRPR	Certified Copy of Foreign Priority Application	PROSECUTION	69
03-31-2006	FRPR	Certified Copy of Foreign Priority Application	PROSECUTION	82
03-31-2006	FRPR	Certified Copy of Foreign Priority Application	PROSECUTION	80
03-31-2006	FRPR	Certified Copy of Foreign Priority Application	PROSECUTION	79
03-31-2006	IMIS	Miscellaneous Internal Document	PROSECUTION	1
03-31-2006	WFEE	Fee Worksheet (PTO-875)	PROSECUTION	1
03-31-2006	WCLM	Claims Worksheet (PTO-2022)	PROSECUTION	1
03-31-2006	P.409.IN	IPEA/409 - Int'l Prelim Report on Patentability	PROSECUTION	5

[Close Window](#)

10574470.raw
SEQUENCE LISTING

<110> Japan Science and Technology Agency
National Institute of Advanced Industrial Science and Technology

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and use thereof

<130> A181-08PCT

<140> 10574470
<141> 2007-09-04

<150> JP 2004-2192
<151> 2004-01-07

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35 40 45Cys Ser Phe Cys Lys Arg Glu Phe Arg Ser Ala Gln Ala Leu Gly Gly
50 55 60His Met Asn Val His Arg Arg Asp Arg Ala Arg Leu Arg Leu Gln Gln
65 70 75 80Ser Pro Ser Ser Ser Ser Thr Pro Ser Pro Pro Tyr Pro Asn Pro Asn
85 90 95Tyr Ser Tyr Ser Thr Met Ala Asn Ser Pro Pro Pro His His Ser Pro
100 105 110Leu Thr Leu Phe Pro Thr Leu Ser Pro Pro Ser Ser Pro Arg Tyr Arg
115 120 125Ala Gly Leu Ile Arg Ser Leu Ser Pro Lys Ser Lys His Thr Pro Glu
130 135 140Asn Ala Cys Lys Thr Lys Lys Ser Ser Leu Leu Val Glu Ala Gly Glu
145 150 155 160Ala Thr Arg Phe Thr Ser Lys Asp Ala Cys Lys Ile Leu Arg Asn Asp
165 170 175Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu Ser Glu
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Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala
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18

<210> 93
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 93
 cagacggagg tttagatc

18

<210> 94
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 94
 gatctagacc tccgtctg

18

<210> 95
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 95
 cagacggagg tctagatc

18

<210> 96
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 96
 gatctacagc tccgtctg

18

<210> 97
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 97

cagacggagc tgtagatc

18

<210> 98

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 98

gatctacgac tccgtttg

18

<210> 99

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 99

caaacggagt cgtagatc

18

<210> 100

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 100

gagctagaac tccgtttg

18

<210> 101

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 101

caaacggagt tctagctc

18

<210> 102

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 102
aacctagaac tccgtttg 18

<210> 103
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 103
caaacggagt tctaggtt 18

<210> 104
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 104
cagctagaac tccgtttg 18

<210> 105
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 105
caaacggagt tctagctg 18

<210> 106
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 106
gatctagaac tcaacttg 18

<210> 107
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 107

caagttgagt tctagatc

18

<210> 108

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 108

gatctagaac tccagttg

18

<210> 109

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 109

caactggagt tctagatc

18

<210> 110

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 110

acgcttgaat taagactc

18

<210> 111

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 111

gagtcttaat tcaagcgt

18

<210> 112

<211> 18

<212> DNA

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 112
 gatcttgaat taacgctc 18

<210> 113
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 113
 gagcgtaat tcaagatc 18

<210> 114
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 114
 agccttgaat taagactc 18

<210> 115
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 115
 gagtcttaat tcaaggct 18

<210> 116
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 116
 gatcttgaat taagcctc 18

<210> 117
 <211> 18

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 117
 gaggcttaat tcaagatc 18

<210> 118
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 118
 gatcttacct taagactc 18

<210> 119
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 119
 gagtcttaag gtaagatc 18

<210> 120
 <211> 18
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 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 120
 gatcttagct taagactc 18

<210> 121
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 121
 gagtcttaag ctaagatc 18

<210> 122
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 122
 gatcttcact taagactc

18

<210> 123
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 123
 gagtcttaag tgaagatc

18

<210> 124
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 124
 gatctcgaat ttcgtctc

18

<210> 125
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 125
 gagacgaaat tcgagatc

18

<210> 126
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 126
 gatttcgaac tacgtctc

18

<210> 127
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 127
 gagacgtagt tcgaaatc

18

<210> 128
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 128
 tcgcttgatc tacacctg

18

<210> 129
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 129
 caggtgtaga tcaagcga

18

<210> 130
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 130
 gatcttacgc taaagctg

18

<210> 131
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 131
cagctttagc gtaagatc

18

<210> 132
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 132
gatccttagcc taaagctg

18

<210> 133
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 133
cagctttagg ctaagatc

18

<210> 134
<211> 232
<212> PRT
<213> Arabidopsis thaliana

<400> 134
Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Gln Thr Asn
1 5 10 15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
20 25 30
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Ile Met Phe
35 40 45
Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr
50 55 60
Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp
65 70 75 80
Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu
85 90 95
Thr Asn Arg Asn Leu Arg Thr Gln Ile Lys Gln Arg Leu Gly Glu Cys
100 105 110
Leu Asp Glu Leu Asp Ile Gln Glu Leu Arg Arg Leu Glu Asp Glu Met
115 120 125
Glu Asn Thr Phe Lys Leu Val Arg Glu Arg Lys Phe Lys Ser Leu Gly
130 135 140
Asn Gln Ile Glu Thr Thr Lys Lys Lys Asn Lys Ser Gln Gln Asp Ile
145 150 155 160
Gln Lys Asn Leu Ile His Glu Leu Glu Leu Arg Ala Glu Asp Pro His
165 170 175
Tyr Gly Leu Val Asp Asn Gly Gly Asp Tyr Asp Ser Val Leu Gly Tyr
180 185 190
Gln Ile Glu Gly Ser Arg Ala Tyr Ala Leu Arg Phe His Gln Asn His
195 200 205
His His Tyr Tyr Pro Asn His Gly Leu His Ala Pro Ser Ala Ser Asp

210
Ile Ile Thr Phe His Leu Leu Glu
225 230

<210> 135
<211> 699
<212> DNA
<213> Arabidopsis thaliana

<400> 135
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tattcaaaga gaagaaatgg tttattcaag aaagcacatg agctcacggt tttgtgtgat 120
gctagggttt cgattatcat gttctctagc tccaacaagc ttcattgagta tatcagccct 180
aacaccacaa cgaaggagat cgtagatctg taccaaacta tttctgatgt cgatgtttgg 240
gccactcaat atgagcgaat gcaagaaacc aagaggaaac tgttggagac aaatagaaat 300
ctccggactc agatcaagca gaggctaggt gagtgtttgg acgagcttga cattcaggag 360
ctgcgtcgtc ttgaggatga aatggaaaac actttcaaac tcgttcgcga gcgcaagttc 420
aaatctcttg ggaatcagat cgagaccacc aagaaaaaga acaaaagtca acaagacata 480
caaaagaatc tcatacatga gctggaacta agagctgaag atcctcacta tggactagta 540
gacaatggag gagattacga ctgagttctt ggataccaaa tcgaagggtc acgtgcttac 600
gctcttcgtt tccaccagaa ccatcaccac tattacccca accatggcct tcatgcaccc 660
tctgcctctg acatcattac cttccatctt cttgaataa 699

<210> 136
<211> 365
<212> PRT
<213> Arabidopsis thaliana

<400> 136
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Pro Pro Gly Phe Arg Phe His Pro Thr Glu Glu Glu Leu Leu Gln Tyr
20 25 30
Tyr Leu Arg Lys Lys Val Asn Ser Ile Glu Ile Asp Leu Asp Val Ile
35 40 45
Arg Asp Val Asp Leu Asn Lys Leu Glu Pro Trp Asp Ile Gln Glu Met
50 55 60
Cys Lys Ile Gly Thr Thr Pro Gln Asn Asp Trp Tyr Phe Phe Ser His
65 70 75 80
Lys Asp Lys Lys Tyr Pro Thr Gly Thr Arg Thr Asn Arg Ala Thr Ala
85 90 95
Ala Gly Phe Trp Lys Ala Thr Gly Arg Asp Lys Ile Ile Tyr Ser Asn
100 105 110
Gly Arg Arg Ile Gly Met Arg Lys Thr Leu Val Phe Tyr Lys Gly Arg
115 120 125
Ala Pro His Gly Gln Lys Ser Asp Trp Ile Met His Glu Tyr Arg Leu
130 135 140
Asp Asp Asn Ile Ile Ser Pro Glu Asp Val Thr Val His Glu Val Val
145 150 155 160
Ser Ile Ile Gly Glu Ala Ser Gln Asp Glu Gly Trp Val Val Cys Arg
165 170 175

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Ile Phe Lys Lys Lys Asn Leu His Lys Thr Leu Asn Ser Pro Val Gly
180 185 190
Gly Ala Ser Leu Ser Gly Gly Gly Asp Thr Pro Lys Thr Thr Ser Ser
195 200 205
Gln Ile Phe Asn Glu Asp Thr Leu Asp Gln Phe Leu Glu Leu Met Gly
210 215 220
Arg Ser Cys Lys Glu Glu Leu Asn Leu Asp Pro Phe Met Lys Leu Pro
225 230 235 240
Asn Leu Glu Ser Pro Asn Ser Gln Ala Ile Asn Asn Cys His Val Ser
245 250 255
Ser Pro Asp Thr Asn His Asn Ile His Val Ser Asn Val Val Asp Thr
260 265 270
Ser Phe Val Thr Ser Trp Ala Ala Leu Asp Arg Leu Val Ala Ser Gln
275 280 285
Leu Asn Gly Pro Thr Ser Tyr Ser Ile Thr Ala Val Asn Glu Ser His
290 295 300
Val Gly His Asp His Leu Ala Leu Pro Ser Val Arg Ser Pro Tyr Pro
305 310 315 320
Ser Leu Asn Arg Ser Ala Ser Tyr His Ala Gly Leu Thr Gln Glu Tyr
325 330 335
Thr Pro Glu Met Glu Leu Trp Asn Thr Thr Thr Ser Ser Leu Ser Ser
340 345 350
Ser Pro Gly Pro Phe Cys His Val Ser Asn Gly Ser Gly
355 360 365

<210> 137

<211> 1098

<212> DNA

<213> Arabidopsis thaliana

<400> 137

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atcgagatcg	atcttgatgt	cattcgcgac	gttgatctca	acaagctcga	gccttgggac	180
attcaagaga	tgtgtaaaat	aggaacaacg	ccacaaaacg	actggtat	ctttagccac	240
aaggacaaaa	aatatccgac	gggaacgaga	actaacagag	ccactgcggc	tggatttttg	300
aaagcaactg	gccgcgacaa	gatcatatat	agcaatggcc	gtagaattgg	gatgagaaag	360
actcttggtt	tctacaaagg	ccgagctcct	cacggccaaa	aatctgattg	gatcatgcat	420
gaatatagac	tcgatgacaa	cattatttcc	cccaggatg	tcaccgttca	tgaggtcgtg	480
agtattatag	gggaagcatc	acaagacgaa	ggatgggttg	tgtgtcgtat	tttcaagaag	540
aagaatcttc	acaaaaccct	aaacagtccc	gtcggaggag	cttccctgag	cggcggcgga	600
gatacgccga	agacgacatc	atctcagatc	ttcaacgagg	atactctcga	ccaatttctt	660
gaacttatgg	ggagatcttg	taaagaagag	ctaaatcttg	accctttcat	gaaactccca	720
aacctcgaaa	gccctaacag	tcaggcaatc	aacaactgcc	acgtaagctc	tcccgcact	780
aatcataata	tccacgtcag	caacgtggtc	gacactagct	ttgttactag	ctgggcggct	840
ttagaccgcc	tcgtggcctc	gcagcttaac	ggaccacat	catattcaat	tacagccgtc	900
aatgagagcc	acgtgggcca	tgatcatctc	gctttgcctt	ccgtccgac	tccgtacccc	960
agcctaaacc	ggtccgcttc	gtaccacgcc	ggtttaacac	aggaatatac	accggagatg	1020
gagctatgga	atacgacgac	gtcgtctcta	tcgtcatcgc	ctggcccatt	ttgtcacgtg	1080
tcgaatggta	gtggataa					1098

<210> 138

<211> 367

<212> PRT

<213> Arabidopsis thaliana

<400> 138

Met Gly His His Ser Cys Cys Asn Lys Gln Lys Val Lys Arg Gly Leu
 1 5 10 15
 Trp Ser Pro Glu Glu Asp Glu Lys Leu Ile Asn Tyr Ile Asn Ser Tyr
 20 25 30
 Gly His Gly Cys Trp Ser Ser Val Pro Lys His Ala Gly Thr Tyr Thr
 35 40 45
 His Ile His Gly Phe Cys Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu
 50 55 60
 Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Ser
 65 70 75 80
 Pro Gln Glu Ala Ala Leu Ile Ile Glu Leu His Ser Ile Leu Gly Asn
 85 90 95
 Arg Trp Ala Gln Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu
 100 105 110
 Val Lys Asn Phe Trp Asn Ser Ser Ile Lys Lys Lys Leu Met Ser His
 115 120 125
 His His His Gly His His His His His Leu Ser Ser Met Ala Ser Leu
 130 135 140
 Leu Thr Asn Leu Pro Tyr His Asn Gly Phe Asn Pro Thr Thr Val Asp
 145 150 155 160
 Asp Glu Ser Ser Arg Phe Met Ser Asn Ile Ile Thr Asn Thr Asn Pro
 165 170 175
 Asn Phe Ile Thr Pro Ser His Leu Ser Leu Pro Ser Pro His Val Met
 180 185 190
 Thr Pro Leu Met Phe Pro Thr Ser Arg Glu Gly Asp Phe Lys Phe Leu
 195 200 205
 Thr Thr Asn Asn Pro Asn Gln Ser His His His Asp Asn Asn His Tyr
 210 215 220
 Asn Asn Leu Asp Ile Leu Ser Pro Thr Pro Thr Ile Asn Asn His His
 225 230 235 240
 Gln Pro Ser Leu Ser Ser Cys Pro His Asp Asn Asn Leu Gln Trp Pro
 245 250 255
 Ala Leu Pro Asp Phe Pro Ala Ser Thr Ile Ser Gly Phe Gln Glu Thr
 260 265 270
 Leu Gln Asp Tyr Asp Asp Ala Asn Lys Leu Asn Val Phe Val Thr Pro
 275 280 285
 Phe Asn Asp Asn Ala Lys Lys Leu Leu Cys Gly Glu Val Leu Glu Gly

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300

290

295

Lys Val Leu Ser Ser Ser Ser Pro Ile Ser Gln Asp His Gly Leu Phe
305 310 315 320
Leu Pro Thr Thr Tyr Asn Phe Gln Met Thr Ser Thr Ser Asp His Gln
325 330 335
His His His Arg Val Asp Ser Tyr Ile Asn His Met Ile Ile Pro Ser
340 345 350
Ser Ser Ser Ser Ser Pro Ile Ser Cys Gly Gln Tyr Val Ile Thr
355 360 365

<210> 139

<211> 1104

<212> DNA

<213> Arabidopsis thaliana

<400> 139

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gaagacgaaa	agctcatcaa	ctacatcaat	tcatatggcc	atggatgttg	gagctctgtt	120
cctaaacatg	caggcactta	tacacatata	catgggtttt	gtttgcagag	atgtggaaaag	180
agttgtagat	taagatggat	aaattatcta	agacctgac	ttaaactgtg	aagcttctct	240
cctcaagaag	ctgctcttat	cattgagctt	cacagcattc	ttggtaacag	atgggctcaa	300
attgctaacc	atctacctgg	aagaacagat	aacgaggtca	agaatttctg	gaactcgagc	360
attaaaaaga	agctcatgtc	tcaccatcat	cacggctatc	atcatcatca	tctctcttcc	420
atggcgagtt	tgctcacaaa	ccttccttat	cacaatggat	tcaaccctac	tacagtcgac	480
gatgaaagtt	caagattcat	gtccaatatc	atcacaaaca	ctaaccctaa	tttcatcact	540
ccaagccatc	tctctcttcc	ttctcctcat	gttatgaccc	cattgatgtt	cccaacctct	600
agagaaggag	atttcaagtt	tctaaccaca	aacaacccaa	accaatctca	tcaccatgat	660
aataaccatt	acaacaacct	cgacattttg	tcacccacac	caactataaa	caatcatcat	720
caaccttcac	tttcttcttg	tcctcatgat	aataatctcc	aatggccagc	gttaccagat	780
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aaactcaacg	tgtttgtagc	accattcaac	gataatgcc	aaaagttatt	atgtggagaa	900
gttctcgaag	gcaaagtact	atcttctctc	tcaccaattt	cacaagatca	cggccttttt	960
cttcccacca	cgtacaactt	tcaaagtact	tctacgagtg	atcatcaaca	tcattcatcga	1020
gtggactcat	acatcaatca	catgatcata	ccatcatcat	cctcatcgtc	gccaatctct	1080
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<210> 140

<211> 253

<212> PRT

<213> Arabidopsis thaliana

<400> 140

Met Thr Ala Tyr Gln Ser Glu Leu Gly Gly Asp Ser Ser Pro Leu Arg
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Lys Ser Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr
20 25 30
Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys
35 40 45
Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val
50 55 60
Phe Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Val Lys
65 70 75 80

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Gly Thr Ile Glu Arg Tyr Lys Lys Ala Ile Ser Asp Asn Ser Asn Thr
85 90
Gly Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
100 105 110
Lys Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu
115 120 125
Met Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu
130 135 140
Glu Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn
145 150 155 160
Glu Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp
165 170 175
Leu His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu
180 185 190
Arg Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu
195 200 205
Gln Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg
210 215 220
Asn Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser
225 230 235 240
Ser Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val
245 250

<210> 141
<211> 762
<212> DNA
<213> Arabidopsis thaliana

<400> 141
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cgtagaaatg gtttgctcaa gaaagcttac gagctctctg ttctttgtga tgctgaagtc 180
gcactcatcg tcttctctag ccgtggtcgt ctctatgagt actctaaca cagtgtaaaa 240
gggactattg agagggtaca gaaggcaata tcggacaatt ctaacaccgg atcggtggca 300
gaaattaatg cacagtatta tcaacaagaa tcagccaaat tgcgtcaaca aataatcagc 360
atacaaaaact ccaacaggca attgatgggt gagacgatag ggtcaatgtc tcccaaagag 420
ctcaggaact tggaaggcag attagagaga agtattacc gaatccgatc caagaagaat 480
gagctcttat tttctgaaat cgactacatg cagaaaagag aagttgattt gcataacgat 540
aaccagattc ttcgtgcaaa gatagctgaa aatgagagga acaatccgag tataagtcta 600
atgccaggag gatctaacta cgagcagctt atgccaccac ctcaaacgca atctcaaccg 660
tttgattcac ggaattatct ccaagtcgcg gcattgcaac ctaacaatca ccattactca 720
tccgcgggtc gccaaagacca aaccgctctc cagtttagtg aa 762

<210> 142
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 142
agttagttac ttaagcttgg gcccc 25

<210> 143
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 143
gatccagtaa gcttaattgg ttccggcgcc 30

<210> 144
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 144
tagaattcgc ggccgcactc gag 23

<210> 145
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 145
gagaattcgg gccagagctg cagctggatg g 31

<210> 146
<211> 82
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 146
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cgggggtacc gtcgacgagc tc 82

<210> 147
<211> 73
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 147

cgtcgacggt acccccggga tctgtaattg taatgttggt tggtgtttgt tggtgttggt 60
aattgtgat cct 73

<210> 148

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 148

gggcttgatc tggatctaga actccgtttg ggtttcgctt aag 43

<210> 149

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 149

tcgacttaag cgaaacccaa acggagttct agatccagat caagccc 47

<210> 150

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 150

atgaccgcgt accaatcgga gctaggagg 29

<210> 151

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially
Synthesized Primer Sequence

<400> 151

cactaactgg agagcggttt ggtcttggcg 30

<210> 152

<211> 6

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Amino Acid Sequence

<400> 152
 Asp Leu Ser Leu Asp Leu
 1 5

<210> 153
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 153
 gatcttagcc taagcctg 18

<210> 154
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 154
 caggcttagg ctaagatc 18

<210> 155
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 155
 gatgatgtca aaatctatga gcatatc 27

<210> 156
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 156
 tccactacca ttcgacacgt gac 23

<210> 157
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 157
 gatgggtcat cactcatgct gcaacaagca 30

<210> 158
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized Primer Sequence

<400> 158
 agttatgacg tactgtccac aagagattgg 30

<210> 159
 <211> 75
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 159
 gatccacaat taccaacaac aacaaacaac aaacaacatt acaattacag atccccggggg 60
 taccgtcgac gagct 75

<210> 160
 <211> 67
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 160
 cgtcgacggt acccccggga tctgtaattg taatgttggt tggtgtttgt tggtgttggt 60
 aattgtg 67

<210> 161
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:Artificially
 Synthesized DNA Sequence

<400> 161
gatggcgaga gggaagatcc agatcaag 28

<210> 162
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 162
ttcaagaaga tggaaggtaa tgatg 25

<210> 163
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 163
ctggatctgg atctagaact ccgtttgggt ttcgcttaag 40

<210> 164
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
Synthesized DNA Sequence

<400> 164
cttaagcgaa acccaaacgg agttctagat ccagatccag 40